JUNE/FY06

FORT SILL
Oklahoma
Army Defense Environmental Restoration Program Installation Action Plan

FINAL 23 August 2006

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), Fort Sill, Installation Management Agency – Southwest Region, executing agencies, and the regulatory agencies, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following agencies contributed to the formulation and completion of this Installation Action Plan at the IAP Workshop held April 18, 2006:

Company/Installation/Branch
EEI for USAEC
Oklahoma Department of Environmental Quality (ODEQ)
US Army Corps of Engineers - Tulsa District
US Army Fort Sill
US Army Environmental Center

Acronyms & Abbreviations

AEDB-R	Army Environmental Database - Restoration
AOC	Area of Concern
AST	Above Ground Storage Tank
BRAC	Base Realignment and Closure
CCES	Crystal Creek Environmental Solution, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (1980)
CESWT	US Army Corps of Engineer, Tulsa District
CFR	Code of Federal Regulations
CMIP	Corrective Measures Implementation Plan
CMS	Corrective Measures Study
CTC	Cost-to-Complete
CTT	Closed, Transferred, and Transferring
cy	cubic yards
DD	Decision Document
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DERP	Defense Environmental Restoration Program
DMM	Discarded Military Munitions
DNT	dinitrotoluene
DOL	Directorate of Logistics
DPW	Directorate of Public Works
DRMO	Defense Reutilization Marketing Organization
DSMOA	Defense State Memorandum of Agreement
EEI	Engineering and Environment, Inc.
EM	Electromagnetic
EOD	Explosive Ordnance Division
EPA	(United States) Environmental Protection Agency
EQD	Environmental Quality Division
ER,A	Environmental Restoration, Army
FARTC	Field Artillery Replacement Training Center
FOSL	Finding of Suitability to Lease
FS	Feasibility Study
Ft	Fort
ft	foot
FTSL	Fort Sill
FY	Fiscal Year
GWM	Groundwater Monitoring
IAP	Installation Action Plan
IMA	Installation Management Agency
IRA	Interim Remedial Action
IRP	Installation Restoration Program
K	$1,000

Acronyms & Abbreviations

LTM	Long-Term Management
LUC	Land Use Controls
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MEC	Munitions and Explosives of Concern
mm	millimeter
MMRP	Military Munitions Response Program
MSSL	Medium-Specific Screening Levels
MSWLF	Municipal Solid Waste Landfill
NE	Not Evaluated
NFA	No Further Action
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OCC	Oklahoma Corporation Commission
OD	Ordnance Disposal
ODEQ	Oklahoma Department of Environmental Quality
OHM	OHM Remediation Services, Corp.
OSDH	Oklahoma State Department of Health
PA	Preliminary Assessment
PBA	Powder Burn Area
PCB	polychlorinated biphenyls
POL	Petroleum, Oil & Lubricants
POM	Program Objective Memorandum (budget)
ppm	part per million
PRC	PRC Environmental Management Inc.
PY	Prior Year
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
S&A	Supervision & Administration
SA	Site Assessment
SI	Site Inspection
SSTP	Soil Stabilization Test Project
SWMU	Solid Waste Management Unit

Acronyms & Abbreviations

TAPP	Technical Assistance Participation Program
TPH	Total Petroleum Hydrocarbon
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency
USAFACFS	United States Army Field Artillery Center and Fort Sill
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VCP	Voluntary Cleanup Program
VSI	Visual Site Inspection
WWTP	Wastewater Treatment Plant

Installation Information

***Installation Locale*:** The United States Army Field Artillery Center and Fort Sill (USAFACFS) is located in Comanche County, southwestern Oklahoma. The Installation consists of 93,828.73 acres that stretches approximately 26 miles in an east-west direction with an average width of six miles. The Fort Sill cantonment area, on the southeastern part of the post, is adjacent to the city of Lawton. Mostly rural areas and the Wichita Mountains National Wildlife Refuge surround the remaining portion of the Installation.

Installation Mission: The mission of the USAFACFS is to train United States Field Artillerymen, both officers and enlisted personnel. The Artillery Training Center uses the concept of one-station-unit training, where basic and advanced individual training is combined and taught through a diverse program ranging from formal classroom training through direct field applications. Annually, Fort Sill trains more than 40,000 students, including 8,000 Field Artillery Marines, and soldiers from 50 allied countries. Approximately 22,000 soldiers and 6,500 civilian employees are employed at USAFACFS.

Lead Organization:
Installation Management Agency, Southwest Region

Lead Executing Agency:
US Army Corps of Engineers - Tulsa District

Regulatory Participation:
Federal: US Environmental Protection Agency, Region VI
State: ODEQ

National Priorities List (NPL) Status: No NPL sites have been identified at Fort Sill.

Installation Restoration Advisory Board (RAB):
Fort Sill has made numerous Restoration Advisory Board (RAB) evaluations over the last 4 years with the last evaluation in July 2004 prior to the IAP Workshop. These evaluations show lack of sufficient and sustained interest by the community and local government entities in forming a RAB.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Petroleum/Oil/Lubricants, Heavy Metals
Affected Media of Concern: Soil, Groundwater, Surface Water
Date for Response Complete (RC): 2005
Funding to date (up to FY05): $22,213K
Current year funding (FY06): $206.3K
Cost-to-Complete (FY07+): $2,685K

MMRP

Primary Contaminants of Concern: UXO
Affected Media of Concern: Soil
Estimated date for RC: 2014
Funding to Date: (up to FY05) $534K
Current year funding (FY06): $0
Cost-to-Complete (FY07+):$40,116K

Installation Historic Activity

Fort Sill had its beginnings as an isolated cavalry post in Indian Territory founded on January 8, 1869, by General Philip H. Sheridan. On October 7, 1871, 23,040 acres were acquired by Executive Order to establish Fort Sill as a military reservation. During the 1870s, the "Buffalo Soldiers" of the 10th Calvary constructed the permanent buildings, which today comprise the Old Fort Sill National Historic Landmark District. On February 26, 1897, nearly 27,000 acres were added by Executive Order. In 1902, the 29th Battery of Field Artillery was assigned to Fort Sill. This event marked the beginning of the transformation of Fort Sill from a cavalry post to a field artillery center. In September 1907, some 1,200 additional acres were added to the Installation by Executive Order. In June of 1911, the School of Fire for Field Artillery was established at Fort Sill, and in 1915, the 1st Aero Squadron, the first US military aircraft unit, was assigned to the post. This led to the establishment of the Henry Post Airfield in 1917. In 1940, some 20,200 acres were purchased from private landowners, and between 1941 and 1943, slightly over 2,500 acres were transferred from the Department of the Interior to Fort Sill. The Artillery Center was established at Fort Sill on November 1, 1946. Acquisition of the final 20,240 acres for the Installation was completed in 1957 by purchases from private landowners, bringing Fort Sill to 94,221 acres. Roughly 392 acres was transferred as a National Cemetery bringing the current acreage to approximately 93,828 acres. Fort Sill is currently the home of the United States Army Field Artillery Center and one of the Army's premier power projection platforms.

Fort Sill applied for a Part B permit under Section 3004(u) of the RCRA in 1987. In order to comply with the requirements of the permitting process, the Installation had to address corrective action for releases of hazardous waste/materials from identified solid waste management units (SWMUs). Fort Sill requested the US Army Environmental Hygiene Agency (USAEHA) conduct an evaluation of Fort Sill's SWMUs in January 1987. In 1990, PRC Environmental Management, Inc., under contract with the Environmental Protection Agency (EPA), conducted a RCRA Facility Assessment (RFA) at Fort Sill and prepared a RFA Report dated 13 April 1990. In 1991, Fort Sill withdrew its Part B permit application and began operating as a less than 90-day generator.

The Environmental Protection Agency proposed a RCRA 3008(h) consent order against Fort Sill in 1993. The intent of this order was to insure that the remediation of Fort Sill's already identified SWMUs were not ignored as a result of the withdrawal of Fort Sill's Part B Application. During the negotiation of this order, Fort Sill was able to demonstrate to EPA region VI that the 120 SWMUs identified during the Fort Sill RFA were being addressed in a timely and appropriate manner. The conclusion of EPA Region VI and Fort Sill was that the system was working efficiently without the need for a costly and time-consuming RCRA 3008(h) consent order. Fort Sill operates under the Voluntary Cleanup Program managed within the guidelines of the IRP and Defense State Memorandum of Agreement (DSMOA) process as opposed to a formal regulatory driven approach.

Cleanup Program Summary

Fort Sill is in the process of developing an Installation-wide Land Use Control (LUC)s implementation plan in coordination with master planning, environmental and Installation command staff.

The mission of the USAFACFS is to train United States Field Artillerymen, both officers and enlisted personnel. The Artillery Training Center uses the concept of one-station-unit training, where basic and advanced individual training is combined and taught through a diverse program ranging from formal classroom training through direct field applications. Annually, Fort Sill trains more than 40,000 students, including 8,000 Field Artillery Marines, and soldiers from 50 allied countries. Approximately 22,000 soldiers and 6,500 civilian employees are employed at USAFACFS.

IRP

- Prior Year Progress: RIP/RC in 2005
- Future Plan of Action: LTM to maintain LUCs

MMRP

Prior Year Progress:

- PA Complete
- SI Completed in FY05

Future Plan of Action:

- RI and RA will be completed

FORT SILL
Installation Restoration Program

IRP Summary

Total AEDB-R IRP Sites / AEDB-R sites with Response Complete: 69/69

Different Site Types:

1 Fire/Crash Training Area	8 Burn Areas	1 Contaminated Sediments
2 Contaminated Fill	4 Surface Disposal Areas	2 Disposal Pit/Drywells
1 Oil Water Separator	18 Landfills	4 Storage Areas
3 Incinerators	1 Waste Treatment Plant	
2 Surface Impoundment/Lagoons		
6 Explosive Ordnance Disposal Areas		
5 Unexploded Munitions/Ordnance		
9 Spill Site Areas		
2 Underground Storage Tanks		

Most Widespread Contaminants of Concern: Petroleum/Oil/Lubricants and Heavy Metals

Media of Concern: Soil, Groundwater, Surface Water

Completed Removal (REM)/Interim Remedial Action (IRA)/Remedial Action (RA):

UST Removals (1992-1993) (Non-ER,A Funding)
Oil/Water Separator Removals (1995-1996) (Non-ER,A Funded)
RA(C) - Old Medical Waste Incinerator
RA(C) - Powder Burn Area 2 (Bald Ridge Road)
RA(C) - Powder Burn Area 4 (Chrystie Hill)
RA(C) - Asphalt Spill Site
RA(C) - Building 4700 – Hospital Laboratory
RA(C) - Bulk POL Storage Area, Building 2330
RA(C) - Dumping Site at Ketch Lake Bunker
IRA - Battery Acid Neutralization Pit, Battery Acid Neutralization Tank, Battery Acid Neutralization System, Fire Training Area, Blue Beaver PBA, Tower Two Road PBA, Bald Ridge Road PBA, Chrystie Hill PBA

Total IRP Funding

Prior years (up to FY05):	$22,213.0K
Current year funding (FY06):	$ 206.3K
Future Requirements (FY07+):	$ 2,685.0K
Total:	$25,104.3K

Duration of IRP

Year of IRP Inception: 1989
Year of IRP RC: 2005
Year of IRP Completion Long-Term Management (LTM): Indefinite

IRP Contamination Assessment Overview

In January 1987, the USAEHA prepared a Hazardous Waste Consultation - Evaluation of Solid Waste Management Units (SWMUs). This report was conducted to assist with the RCRA Part B permit application for the Installation's hazardous waste container storage facility by identifying and evaluating all SWMUs on the Installation as required by 40 CFR 264.101.

In July 1990, USAEHA conducted an Environmental Program Review. The purpose of the review was to evaluate the functional and technical aspects of the air pollution, environmental noise, hazardous waste, pest management, wastewater and potable/recreational water quality, and non-ionizing radiation programs. This was to evaluate the potential for groundwater contamination; to assess compliance with applicable Federal, State, local and Department of the Army environmental regulations; and to assist with the identification of existing and potential environmental hazards.

April 1990, a RCRA Facility Assessment Report was prepared by PRC Environmental Management, Inc. and ICF Incorporated for the US Environmental Protection Agency (EPA), Region VI. The report was based on information reviewed from files at EPA Region VI and a visual site inspection conducted by ICF on January 8-12 1990. Based on the review of the available information and observations made during the VSI, 120 SWMUs were identified at Fort Sill.

In April 1991, Radian Corporation conducted sampling under a RCRA Facilities Assessment for the US Army Corps of Engineers, Kansas City District. The assessment was prepared for 16 SWMUs at Fort Sill, which were selected from a group of 43. The 43 sites were originally identified in the Evaluation of Solid Wastes Management Units issued by the USAEHA in 1987. The 16 sites identified for the RFA included active and inactive landfills, open ordnance detonation areas, an ordnance disposal pit, a waste battery acid disposal pit, and a fire training area. The objective of the facility assessment was to provide a preliminary determination of the presence or absence of chemical contamination at these SWMUs.

Sixty Nine of Fort Sill's SWMUs have been included in the IRP program and the Army Environmental Restoration database. These 69 sites consist of landfills, powder burn areas, EOD sites, spill locations, contaminated UST sites, and other miscellaneous sites. Nine of Fort Sill's historic landfills (AEDB-R #s FTSL-009 thru -016 &-020) were determined by EPA Region VI, in their proposed RCRA 3008(h) consent order, to pose a threat to the shallow alluvial groundwater along Cache creek. The groundwater monitoring systems at these sites were evaluated, upgraded and sampled to insure that these landfills were not contaminating Cache creek. The sampling effort was intended to collect groundwater samples for five years to establish a basis for the closing or continued monitoring/remediation of these sites. This groundwater-monitoring program was completed in June of 2000.

Four of Fort Sill's historic powder burn areas (AEDB-R #s FTSL-027, -029, -030, -032) were determined to be contaminated with excessively high (40,000 ppm) levels of lead in surface soils. These sites posed significant offsite migration hazards (sediment migration) due to the colloidal nature of the soils in the area and the affinity of lead for such soil particulates. The threat of contaminant migration has been mitigated at these four (4) sites, by the completion of remedial actions. Remedial actions at FTSL-030 or 032 were funded with other funds. The State of Oklahoma Department of Environmental Quality closed all eight historic powder burn areas on 12 July 2001.

IRP Cleanup Exit Strategy

All sites with projected funding are landfills with materials left in place. Therefore, the LTM phase will include annual assessment with five-year reviews and LUCs in accordance with the Installation-wide LUC Implementation Plan and will continue indefinitely.

Previous Studies

1986

- Geohydrologic Study, No.38-26-0908-87, USAEHA, March & April 1986.

1987

- Hazardous Waste Consultation - Evaluation of Solid Waste Management Units, No.37-26-1650-87, USAEHA, January-87.

1990

- RCRA Facility Assessment Report, US Environmental Protection Agency (EPA), Region VI, PRC Environmental Management, Inc. and ICF Incorporated, April-90.
- Environmental Program Review, USAEHA, July-90.

1991

- Conducted Sampling Under a RCRA Facilities Assessment, US Army Corps of Engineers, Kansas City District, Radian Corporation, April-91.

1995

- Draft Closure Report DOL Area Site SWMU, Fort Sill, Oklahoma, IT Corporation for the CESWT, July-95.

1996

- Powder Burn Areas Site Investigation, US Army Corps of Engineers, Tulsa District, Crystal Creek Environmental Solutions, Inc., January-96.
- Powder Burn Areas Site Investigation (PBAs 1, 2, 3, 4, 6, 8), Fort Sill, Oklahoma, Crystal Creek Environmental Solutions, Inc., January-96.
- Site Investigation of 34 SWMUs, Fort Sill, Oklahoma, Parsons Engineering Science, June-96.
- Site Closure Report Remedial Action - East Range PBA, Two Volume Set (SWMU 024), OHM Remediation Services, Corp., July-96.
- Site Closure Report Remedial Action – Tower Two PBA, Two Volume Set (SWMU 027), OHM Remediation Services, Corp., July-96.
- Closure Report POL Storage Area AIA Building 2330, Fort Sill Oklahoma, US Army Crops of Engineers Tulsa District, November-96.
- Site Closure Report Remedial Action – Blue Beaver Creek PBA, Two Volume Set (SWMU 029), OHM Remediation Services, Corp., December-96.

1997

- Technical Data Report for the Investigation and Removal of Contaminated Drain Traps at Building 4700 (Old Reynolds Army Community Hospital), US Army Corps of Engineers, Tulsa District, LB&M Associates Inc., July-97.
- Investigation Report Wastewater Treatment Plant, US Army Corps of Engineers, Tulsa District, Woodward-Clyde Federal Services, August-97.
- Investigation Report Wastewater Treatment Plant, Fort Sill, Oklahoma, One Volume (SWMUs 065-079), Woodward-Clyde Federal Services, August-97.

Previous Studies

1998

- Technical Data Report Battery Acid Disposal Site, Fort Sill, Advancia Corporation, February-98.
- Remediation of Chrystie Hill Powder Burn Area Number 4, US Army Corps of Engineers, Tulsa District, OHM Remediation Services, Corp., July-98.
- Technical Evaluation to Establish Soil Levels for Lead, 2,4-Dinitrotoluene, and 2,6-Dinitrotoluene at the Chrystie Hill Powder Burn Area, OHM Remediation Services Corporation, Caldwell Environmental Associates, Inc., September-98.
- Work Plan for SWMU 85, US Army Corps of Engineers, Tulsa District, IT Corporation, October-98.

1999

- Site Investigation of Former Gunnery Hill Landfill (SWMU 4), Fort Sill, Oklahoma, US Army Corps of Engineers, Tulsa, July-99.
- Former Sitting Bear Creek Landfill (SWMU 5), Fort Sill, Oklahoma, US Army Corps of Engineers, Tulsa, July-99.
- Former Sitting Bear Creek Landfill (SWMU 5), Fort Sill, Oklahoma, US Army Corps of Engineers, Tulsa, July-99.
- Site Investigation Former Camp Eagle Landfill (SWMU 17), Fort Sill, Oklahoma, US Army Corps of Engineers, Tulsa, July-99.
- Limited Human Health Risk Evaluation, Former Sitting Bear Creek Landfill (SWMU 5), US Army Corps of Engineers, Tulsa, July-99.
- Final Site Investigation Heyles Hole, Fort Sill, Oklahoma, US Army Corps of Engineers, Tulsa, September-99.
- Closure Report SWMU 85, Fort Sill, Oklahoma, Two Volume Set, IT Corporation, November-99.

2000

- Closure Report Powder Burn Areas (SWMUs 24, 27, 29), US Army Corps of Engineers, Tulsa, September-00.
- Groundwater Monitoring Program Report SWMU 6, 7, 8, 9, 10, 11, 12 and 83, Fort Sill, Oklahoma, US Army Corps of Engineers, Tulsa District Radian International, December-00.

2001

- Final Closure Report Paint Thinner Disposal Area Buildings 2209 and 214 (SWMU 80), Fort Sill, Oklahoma, US Army Corps of Engineers, Tulsa, April-01.
- Closure Report Acid Neutralization System, Fort Sill, Oklahoma. US Army Corps of Engineers, Tulsa District., IT Corporation, June-01.
- Closure Report Fire Training Area, Fort Sill, Oklahoma. US Army Corps of Engineers, Tulsa District, IT Corporation, June-01.
- Fort Sill Groundwater Analyses Statistical Summary, Selected Analytes SWMUs 6, 7,8, 9, 10, 11, 12 1996-2000, US Army Corps of Engineers, Mobile, August-01.
- Final Report Site Investigation Former Waste Battery Acid Neutralization Site (SWMUs 97, 98, 112), Fort Sill, Oklahoma, US Army Corps of Engineers, Tulsa, September-01.

2001

- Final Technical Memo Completion Report Old Medical Waste Incinerator Site Removal Action, US Army Corps of Engineers, Tulsa District, IT Corporation, November-01.

2002

- Final Closure Report Former Gunnery Hill Landfill (SWMU 4), US Army Field Artillery Center & Fort Sill, US Army Corps of Engineers, Tulsa, March-02.
- Completion Report SWMU#5, Former Sitting Bear Creek Landfill, Weston Solutions, Inc., September-02.

2003

- Final Remedial Investigation Report SWMU#20, Former Bateman Woods Demolition Area, Fort Sill, Oklahoma, Weston Solutions, Inc., July-2003

FORT SILL

Installation Restoration Program
Site Descriptions

FTSL-008
LANDFILL 4 (GUNNERY HILL)

SITE DESCRIPTION

Landfill 4 is located in the Gunnery Hill area northwest of the intersection of Fort Sill Blvd and Sheridan Road. It was a hillside disposal site where rubbish was open-burned. The site is approximately 2.4 acres in size. Material was reportedly dumped and/or burned at this location during the World War II era (ca. 1940s). Operation ceased in the late 1940s. The exact composition of the wastes managed is unknown. The unit is well vegetated and shows no visible signs of leachate.

PRC Environmental conducted the RFA (PA/SI) in April 1990. The RFA recommended further site investigation to determine the composition of the wastes disposed of at this unit. Fort Sill contracted with the US Army Corps of Engineers, Tulsa District (CESWT), to conduct further site investigation to identify contaminants of concern. The Phase I RFI began in July 1998, and the Phase I report was completed July 1999. The Phase I investigation included an electromagnetic survey of the area, revealing a total of six anomalous areas, sampling of the surface soil, subsurface soil, and sediment. Lead was detected in the soil sample at concentrations above the industrial MSSL. Additional sampling was needed to determine the full extent of contamination at the site.

Phase II of the RFI comprised of additional soil and groundwater sampling was conducted in March 2000, with the final closure report prepared by CESWT. This investigation shows arsenic, barium, chromium and lead as possible contaminates of concern. Further investigation was conducted at the site. Final Site Investigation Former Gunnery Hill Landfill Report was submitted to ODEQ on April 09, 2002. ODEQ issued NFA letter October 27, 2004.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Heavy Metals

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	198708	199004
SI	198708	199004
RI/FS	199804	200407
LTM	200410	203609

RC DATE: 200407

CLEANUP STRATEGY

LTM phase will include annual assessment with five-year reviews and LUCs in accordance with the Installation-wide LUC Implementation Plan. The LUCs will be on-site controls with no building or drilling. It is anticipated that there will be limited activity at this location, with the five-year reviews and LUCs being covered under site FTSL-014. LTM will continue indefinitely.

FTSL-009
LANDFILL 5 (SITTING BEAR CREEK)

SITE DESCRIPTION

Landfill 5 is located in the Sitting Bear Creek area on the East side of Geronimo Road, roughly 300 feet south of the Geronimo Road Children's School and 600 feet west of Sitting Bear Creek. The landfill was a trench type landfill, reported in 1975 to contain rubbish generated from the 1880s to 1945. The area reportedly was subsequently filled and covered with soil. At this time, there is no waste exposed to the surface and no visible leachate is being discharged. The size of the landfill is estimated to be four acres. The area is currently used as a playground for the Geronimo Road Children's School.

The RFA (PA/SI) was conducted in April 1990 by PRC. The RFA recommended no further action at the site; however, EPA Region VI requested additional investigation. Fort Sill contracted with CESWT, to conduct Phase I of a RFI. The Phase I consisted of an electromagnetic survey to identify the exact location of the landfill.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Heavy Metals, Aromatic Hydrocarbons

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	198708	199004
SI	198708	199004
RI/FS	199804	200503
LTM	200503	203609

RC DATE: 200503

In Phase II of the RI, Fort Sill contracted with CESWT to conduct surface soil sampling. Sampling was performed by the CESWT in the summer of 1998 and 1999. Through contract with CESWT, Roy F. Weston, Inc. performed a limited human health risk evaluation of the surface soils for this site. Based on the risk evaluation, it was determined that the risk posed to children using the playground was within acceptable limits. In July 1999, the health risk evaluation was provided to the Lawton Public School System. Based on the results of the health risk evaluation, the decision to continue to use the playground was made by the Lawton Public School System. The Lawton Public School System owns the Geronimo Road School, and the land the school sits upon is leased from Fort Sill. The current school lease is expired, with the Finding of Suitability to Lease (FOSL) being revised.

During the Phase III of the RI (June 2001) site investigation, extensive subsurface soils and groundwater investigation was conducted to support a full baseline human health and ecological risk assessment for all potential exposure pathways at the site. The results of the baseline risk assessment determined that there are limited-to-no human health risks or environmental risks associated with the former landfill. On January 3, 2003, the final

Closure Report, including the human health and ecological risk assessment, was submitted to ODEQ.

As landfill maintenance, the trenches were brought up to grade in August 2004 with an additional minimum of 6" soil then re-vegetated with sod. ODEQ issued a NFA letter on October 27, 2004.

CLEANUP STRATEGY

LTM phase (funded under FTSL-014) will include annual assessment with five-year reviews and LUCs in accordance with the Installation-wide LUC Implementation Plan. The LUCs will be on-site controls with no building or drilling and will continue indefinitely.

FTSL-010
LANDFILL 6 (MISSION RIDGE/WHITE WOLF BRIDGE)

SITE DESCRIPTION

Mission Ridge/White Wolf Bridge is the earliest documented sanitary landfill used at Fort Sill. It was a trench-and-fill disposal site for sanitary wastes and rubbish during the 1940s and 1950s. The landfill is located between Hummel Knoll and the Medicine Bluff Recreational Area, between Apache Gate Road and Punch Bowl Roads. Chatto Road subdivides the area east to west. The overall area is approximately 111 acres in size. Disposal apparently took place at five separate trench-and-fill areas that range from 1 to 6 acres in size and are apparent, by parallel or nearly parallel, ridge-like hummocks along the ground surface. The landfill areas are well vegetated, with minimal surface erosion and no visible signs of environmental impact.

A geohydrologic study was conducted by USAEHA in March and April 1986, at which time four groundwater monitoring wells were installed.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Heavy Metals

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	198708	199004
SI	198708	199004
RI/FS	199005	200209
LTM	200209	203609

RC DATE: 200209

In April 1990, PRC Environmental completed the RFA recommending the collection of additional soil and groundwater samples. April of 1991, Radian Corp. conducted a separate RFI, which included soil and groundwater sampling.

Groundwater was monitored for five years to determine possible impact on the groundwater quality. The five-year groundwater monitoring program was completed in FY2000. On 22 February 2001, the site Groundwater Monitoring Program Report was submitted to ODEQ. To support the findings of the Groundwater Monitoring Report, the US Corps of Engineers prepared a separate Groundwater Analyses Statistical Summary report. In August 2001, the Mobile District completed the report and submitted it to the ODEQ in September 2001. On August 20, 2002, ODEQ issued a NFA letter. In December 2002, the groundwater monitoring wells were removed.

CLEANUP STRATEGY

LTM phase will include annual assessment with five-year reviews and LUCs in accordance with the Installation-wide LUC Implementation Plan. The LUCs will be on-site controls with no building or drilling and will continue indefinitely.

FTSL-011
LANDFILL 7 (HUMMEL KNOLL)

SITE DESCRIPTION

The Hummel Knoll site is located between Hummel Knoll and Medicine Bluff Recreational Area, and between Apache Gate Road and Punch Bowl Road (northeast corner). The landfill operated as a trench-and-fill type landfill from about 1950 to 1955. Fort Sill used this landfill primarily for the disposal of sanitary wastes and rubbish. The site is approximately 50 acres in size.

In March and April 1986, a geohydrologic study was conducted by USAEHA, at which time four groundwater monitoring wells were installed. In April 1990, PRC Environmental completed the RFA recommending the collection of additional soil and groundwater samples. In April 1991, Radian Corp. conducted a separate RFA, which included soil and groundwater sampling.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Heavy Metals, Aromatic Hydrocarbons

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	198708	199004
SI	198708	199004
RI/FS	199506	200209
LTM	200209	203609

RC DATE: 200209

In early 1995, the groundwater monitoring system at this site was evaluated and upgraded by Parsons. There were a total of seven monitoring wells at the site. The RI/FS began in 1995. Groundwater monitoring was initiated due to EPA Region VI concerns regarding this site.

Groundwater was monitored for five years to determine impact on the groundwater quality. In FY2000, the five-year groundwater monitoring program was completed at this site. On 22 February 2001, the site Groundwater Monitoring Program Report was submitted to ODEQ. To support the findings of the Groundwater Monitoring Report, the US Corps of Engineers prepared a separate Groundwater Analyses Statistical Summary report which Mobile District completed August 2001 and submitted to the ODEQ in September 2001. On 20 August 2002, ODEQ issued a NFA letter. In December 2002, the groundwater monitoring wells were removed.

CLEANUP STRATEGY

LTM phase will include annual assessment with five-year reviews and LUCs in accordance with the Installation-wide LUC Implementation Plan. The LUCs will be on-site controls with no building or drilling and will continue indefinitely.

FTSL-012
LANDFILL 8 (NORTH FIELD)

SITE DESCRIPTION

The North Field Landfill is located west of North Field Road and north of Elgin Road, south of the St. Louis-San Francisco Railroad and approximately 200 feet east of East Cache Creek. The landfill area is elongated along a north-south axis, and has a length of approximately 4,000 feet and a width of about 600 feet (55 acres). The site operated as a trench-and-fill type sanitary landfill from pre-1965 to 1970, and was primarily used for disposal of sanitary wastes and rubbish.

A geohydrologic study was conducted by USAEHA in March and April 1986, at which time four groundwater monitoring wells were installed. In April 1990, PRC Environmental completed a RFA and recommended the collection of additional soil and groundwater samples. In April 1991, Radian Corp. conducted a separate RFA which included soil and groundwater sampling.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Heavy Metals, Aromatic Hydrocarbons

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
PA	198708	199004
SI	198708	199004
RI/FS	199506	200202
LTM	200209	203609

RC DATE: 200209

In early 1995, the groundwater monitoring system at this site was evaluated and upgraded by Parsons. There were a total of eight monitoring wells at the site. The RI/FS began in 1995. Groundwater monitoring was initiated at this site due to EPA Region VI concerns regarding this site.

Groundwater was monitored for five years to determine impact on the groundwater quality. In FY2000, the five-year groundwater monitoring program was completed at this site. On 22 February 2001, the site Groundwater Monitoring Program Report was submitted to ODEQ. To support the findings of the Groundwater Monitoring Report, the US Corps of Engineers prepared a separate Groundwater Analyses Statistical Summary report which the Mobile District completed in August 2001 and submitted to the ODEQ in September 2001. On 20 August 2002, ODEQ issued a NFA letter. In December 2002, the groundwater monitoring wells were removed.

CLEANUP STRATEGY

LTM phase will include annual assessment with five-year reviews and LUCs in accordance with the Installation-wide LUC Implementation Plan. The LUCs will be on-site controls with no building or drilling and will continue indefinitely.

FTSL-013
LANDFILL 9 (PEACH TREE CROSSING)

SITE DESCRIPTION

Peach Tree Crossing Landfill is located immediately west of North Field Road, about 600 ft south of Elgin Road. The edge of the landfill is about 200 ft from the western edge of East Cache Creek. The site is a three-acre, trench-type sanitary landfill used primarily for the disposal of sanitary wastes and rubbish from 1970 to 1971.

In March and April 1986, a geohydrologic study was conducted by USAEHA, at which time four groundwater monitoring wells were installed. Collection of soil and groundwater samples was recommended by the 1990 RFA conducted by PRC Environmental.

Soil and groundwater samples were collected under the Radian RFA (April 1991). No soil contamination was found in the soil borings collected during that investigation. Groundwater analysis of samples collected showed some potential contamination. Four compounds: chlorobenzene, arsenic, 4,4'-DDD, and chlordane, were each detected in samples, but all were at extremely low concentrations and were verified to not be an issue.

Groundwater monitoring was initiated at this site due to EPA Region VI concerns regarding the proximity of this site to the shallow alluvial aquifers. The groundwater monitoring system at this site was evaluated and upgraded to ensure adequate monitoring. The upgraded monitoring well network consisted of seven wells.

Groundwater was monitored for five years to determine the possible impact on the groundwater quality. In FY2000, the five-year groundwater monitoring program was completed at this site. On 22 February 2001, the site Groundwater Monitoring Program Report was submitted to ODEQ for regulatory review. To support the findings of the Groundwater Monitoring Report, the US Corps of Engineers prepared a separate Groundwater Analyses Statistical Summary report which the Mobile District completed in August 2001 and submitted to the ODEQ in September 2001. On 20 August 2002, ODEQ issued a NFA letter. In December 2002, the groundwater monitoring wells were removed.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Heavy Metals, Aromatic Hydrocarbons

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	198708	199004
SI	198708	199004
RI/FS	199506	200209
LTM	200209	203609

RC DATE: 200209

CLEANUP STRATEGY

LTM phase will include annual assessment with five-year reviews and LUCs in accordance with the Installation-wide LUC Implementation Plan. The LUCs will be on-site controls with no building or drilling and will continue indefinitely.

FTSL-014
LANDFILL 10

SITE DESCRIPTION

Landfill 10 is a trench type landfill located between Dodge Hill Road and Beef Creek Road and north of Beef Creek. The site covers approximately 56 acres. It was in operation from 1971 to 1985, and used primarily for the disposal of sanitary wastes, although paint sludge, asbestos, cyanide waste, wash rack wastes, spent lithium batteries, and pesticides were also known to have been disposed there. Approximately 3-feet of compacted earth was applied to the cells as a final cover. The site is well vegetated and currently used as a training area.

In March and April 1986, a geohydrologic study was conducted by USAEHA, at which time two groundwater monitoring wells were installed. PRC Environmental completed the RFA in April 1990, recommending the collection of additional soil and groundwater samples. The April 1991 RFA conducted by Radian Corp. included soil and groundwater sampling.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Pesticides, Heavy Metals, Hydrocarbons

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	198708	199004
SI	198708	199004
RI/FS	199506	200209
LTM	200209	203609

RC DATE: 200209

The groundwater monitoring system at this site was evaluated and upgraded by Parsons in early 1995. There were seven groundwater monitoring wells at this site. The RI/FS began in 1995. Groundwater monitoring was initiated due to EPA Region VI concerns regarding this site.

Groundwater was monitored over a five-year period to determine the impact on the groundwater quality. The five-year groundwater monitoring program was completed at this site in FY2000. The site Groundwater Monitoring Program Report was submitted to ODEQ, 22 February 2001. To support the findings of the Groundwater Monitoring Report, the US Corps of Engineers prepared a separate Groundwater Analyses Statistical Summary report which the Mobile District completed in August 2001 and submitted to the ODEQ in September 2001. On 20 August 2002, ODEQ issued a NFA letter and the groundwater monitoring wells were removed in December 2002.

CLEANUP STRATEGY

LTM phase will include annual assessment with five-year reviews and LUCs in accordance with the Installation-wide LUC Implementation Plan. The LUCs will be on-site controls with no building or drilling and will continue indefinitely. Funding in FY08 and FY09 is for installation wide, IRP administrative documentation. LTM costs for LUCs at sites FTSL-008 and FTSL-009 are captured under this site.

FTSL-047
EOD LANDFILL (QUANAH RANGE)

SITE DESCRIPTION

The Quanah Range EOD Landfill is in the center part of the Quanah Range Impact Area. This site is an eight to ten feet deep trench extending for approximately 200 feet along an unnamed north/south road about half a mile north of McKenzie Hill Road. The trench landfill was used to bury exploded bombs and munitions up to the 1970s. A site reconnaissance conducted in October 1989, verified the presence of unburied bomb units in and near a northeast to southwest trending trench. Contaminants from these units pose a potential pollution threat to the soil zone as well as to groundwater and nearby surface water. Collection of soil samples was recommended in the April 1990 RFA conducted by PRC.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Explosives, Heavy Metals

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

Phases	Start	End
PA	198909	199102
SI	198909	200009
RI/FS	200009	200403
LTM	200406	203609

RC DATE: 200403

Soil and groundwater samples were collected under the April 1991 RFA conducted by Radian International. Some soil contamination appears to exist. Cyclotetramethylene tetranitramine was detected at a significant concentration in one surface soil sample collected from the trench containing old bombs and munitions. Lead and 4,4'-DDE were detected at very low levels in borehole samples.

It appears that explosive compounds are migrating from the trenches and surface soils into the groundwater. However, only one well contained detectable concentrations of any explosive compound in the groundwater. The downgradient well and the surface water sample downgradient from the site did not contain any of these contaminants in detectable concentrations.

ODEQ issued an NFA letter on October 14, 2003. The three groundwater monitoring wells were removed in September 2003. Landfill maintenance which included erosion control and re-vegetation occurred in FY06.

CLEANUP STRATEGY

LTM phase will include annual assessment with five-year reviews and LUCs in accordance with the Installation-wide LUC Implementation Plan. The LUCs will be on-site controls with no building or drilling and will continue indefinitely.

FTSL-047
EOD LANDFILL (QUANAH RANGE)

This site lies within the active range of the Fort Sill Falcon Range Impact Area. Therefore no further remedial investigation and/or remedial action will be considered until such time the active range becomes inactive and/or closed.

IRP No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
FTSL-001	LANDFILL 1A	RCRA Facility Assessment Report	199004
FTSL-002	LANDFILL 1 B	A final Closeout report will be written in 2005-2006 by IRP Manager	199004
FTSL-003	LANDFILL 1C	RCRA Facility Assessment Report	199004
FTSL-004	LANDFILL 1D	RCRA Facility Assessment Report	199004
FTSL-005	LANDFILL 1E	RCRA Facility Assessment Report	199004
FTSL-006	LANDFILL 2 (CAMP DONIPHAN)	RCRA Facility Assessment Report	199004
FTSL-007	LANDFILL 3 (HEYLES HOLE)	ODEQ 22 November 1999 NFA Letter	199911
FTSL-015	LANDFILL 11	ODEQ 20 August 2002 NFA Letter	200209
FTSL-016	LANDFILL 12	ODEQ 20 August 2002 NFA Letter	200209
FTSL-017	LEAF DISPOSAL AREA	ODEQ 26 October 2000 NFA Letter	200009
FTSL-018	WOOD DISPOSAL AREA	ODEQ 26 October 2000 NFA Letter	200009
FTSL-019	POSSIBLE CLASSIFIED MATERIAL DISPOSAL	RCRA Facility Assessment Report	199004
FTSL-020	LANDFILL 16 (A & B)	Non-DERA eligible, current landfill	199004
FTSL-021	LANDFILL 17 (CAMP EAGLE)	ODEQ 30 July 2001 NFA Letter	200107
FTSL-022	CRATER CREEK CANYON DEMO AREA	ODEQ 14 October 2003 NFA Letter	200309
FTSL-023	BATEMAN WOODS DEMO AREA	ODEQ 3 February 2005 NFA Letter	200409
FTSL-024	SOUTH ARBUCKLE DEMO AREA	ODEQ 14 October 2003 NFA Letter	200309
FTSL-025	CHATTO FLATS DEMO AREA	ODEQ 23 August 2004 NFA Letter	200409
FTSL-026	POWDER BURN AREA 1 (ADAMS HILL)	ODEQ 12 July 2001 NFA Letter	200107
FTSL-027	POWDER BURN AREA 2 (BALD RIDGE ROAD)	ODEQ 12 July 2001 NFA Letter	200107
FTSL-028	POWDER BURN AREA 3 (APACHE GATE)	ODEQ 12 July 2001 NFA Letter	200107

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
FTSL-029	POWDER BURN AREA 4 (CHRYSTIE HILL)	ODEQ 12 July 2001 NFA Letter	200107
FTSL-030	POWDER BURN AREA 5 (TOWER TWO ROAD)	ODEQ 12 July 2001 NFA Letter	200107
FTSL-031	POWDER BURN AREA 6 (GATE 6)	ODEQ 12 July 2001 NFA Letter	200107
FTSL-032	POWDER BURN AREA 7 (BLUE BEAVER CREEK)	ODEQ 12 July 2001 NFA Letter	200107
FTSL-033	POWDER BURN AREA 8 (QUANAH RANGE)	ODEQ 12 July 2001 NFA Letter	200107
FTSL-036	POST LAUNDRY WASTEWATER LAGOON	ODEQ 22 November 1999 NFA Letter	199909
FTSL-037	WASTEWATER TREATMENT PLANT	ODEQ 16 April 2002 NFA Letter	199706
FTSL-038	LAKE ELMER OXIDATION LAGOONS	ODEQ 22 November 1999 NFA Letter	199909
FTSL-039	VEHICLE WASHRACKS	ODEQ September 1998 NFA Letter	199809
FTSL-040	BATTERY ACID DISPOSAL PIT	ODEQ 25 February 2002 NFA Letter	200209
FTSL-041	WASTE BATTERY ACID UST	ODEQ 25 February 2002 NFA Letter	199606
FTSL-042	PAINT THINNER DISPOSAL AREA	ODEQ's Response letter 23 December 2002	200407
FTSL-043	HAZARDOUS WASTE STORAGE AREA	OSDH NFA 3 February 1993	199302
FTSL-044	USED OIL USTS TANKS	Oklahoma Corporation Commission UST Program closures	199709
FTSL-045	FIRE TRAINING AREA	ODEQ 10 April 2003 NFA	200304
FTSL-48	CONTAMINATED FUEL ACCUMULATION AREA	1996 Parson's 34 SWMU Report	199607
FTSL-049	OIL/WATER SEPERATOR AT 1/78TH MOTOR POOL	ODEQ 1 September 1998 NFA	199606
FTSL-050	PAINT SHOP BUILDING 1950	RCRA Facility Assessment Report, Non-DERA eligible	199606
FTSL-051	ASPHALT SPILL SITE	ODEQ Closure 6 June 2002	200206
FTSL-052	SPILL SITE AT DEH UST	OCC 16 July 1996 Closure	199606
FTSL-053	PATHOLOGICAL AND INFECTIOUS WASTE INCINERATOR	1996 Parson's 34 SWMU Report	199606
FTSL-054	CLASSIFIED DOCUMENTS INCINERATOR	1996 Parson's 34 SWMU Report	199606
FTSL-055	BATTERY ACID NEUTRALIZATION TANK	ODEQ 25 February 2002	199606

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
FTSL-056	CHEMICAL STORAGE SHED NEAR BLDG 2261	1996 Parson's 34 SWMU Report	199606
FTSL-057	PAINT BOOTHS - BUILDING 2271 AND BUILDING 2272	Non-DERA eligible	199606
FTSL-058	CAPACITOR STORAGE AREA, BUILDING 1931	Non-DERA eligible	199606
FTSL-059	CAPEX AREA – UXO CLEARANCE	Active Range, Non-DERA eligible	199009
FTSL-060	BUILDING 4700 – HOSPITAL LABORATORY	ODEQ 30 August 2002 NFA Letter	199709
FTSL-061	EQUIPMENT MAINTENANCE SHOP SPILL AREA	RCRA Facility Assessment Report	199004
FTSL-062	UNDERGROUND PETROLEUM TANK	OCC April 1994 closure	199404
FTSL-063	UST AT ADAMS HALL, BLDG 5020	OCC December 1994 closure	199412
FTSL-064	BLDG 2209 – OPEN PIT, FORMER UST	ODEQ 22 July 1998 NFA letter	199807
FTSL-065	UXO CLEARANCE – BLUE BEAVER	Active Range, Non-DERA eligible	200001
FTSL-066	UXO CLEARANCE – SPOTS RANGE	Active Range, Non-DERA eligible	200001
FTSL-067	UXO CLEARANCE – POTATO HILL	Active Range, Non-DERA eligible	200001
FTSL-068	UXO CLEARANCE – MCKENZIE HILL	Active Range, Non-DERA eligible	200001
FTSL-069	UXO CLEARANCE – ROCKET POND	Active Range, Non-DERA eligible	200001
FTSL-070	BULK POL STORAGE AREA, BLDG 2330	OCC 4 February 2003 UST Program Closure	199612
FTSL-089	DUMPING SITE AT KETCH LAKE BUNKER	ODEQ November 1998 NFA Letter	199811
FTSL-090	OLD MEDICAL WASTE INCINERATOR	ODEQ 24 April 2002 NFA Letter	200209

IRP Schedule

Initiation of IRP: 1989

Past Phase Completion Milestones

1988 Installation Assessment Completed

1992 USAEHA completed evaluation of Solid Waste Management Units

1993 Site Closure of FTSL-043

1994 Awarded contract for IRA for FTSL-039 for the various Wash Rack, SWMU-43
PA for FTSL-039 (SWMU-045) completed
SI for FTSL-039 (SWMU-045) awarded

1995 Completed Workplan for CMS at SWMU-018 and FTSL-029 (SWMU-026)
Awarded CMS for SWMU-018 and FTSL-029 (SWMU-026)

1996 Received final report for SWMU-045
Site Closure of FTSL-052

1997 Awarded CMIP for SWMU-018

1998 Awarded CMIP for FTSL-029 (SWMU-026)
Awarded contract for RA at SWMU-018
Site Closure of FTSL-007
Site Closure of FTSL-064
Site Closure of FTSL-089

1999 RI phase complete for FTSL-038
Site Closure of FTSL-038
Site Closure of FTSL-039
Site Closure of FTSL-036
Site Closure of FTSL-049

2000 Groundwater monitoring completed for: PBAs FTSL-027, -030, -032, Landfills FTSL-010, 011, 012, 013, 014, 015, 016
Remedial Investigation underway for FTSL-042, FTSL-008
Site Investigation underway for new ER,A site FTSL-090
Site Closure of FTSL-017
Site Closure of FTSL-018

2001 RI phase underway for FTSL-009, -022, -023, -024, -025, -047
RI/RD completed for FTSL-090 to be followed by the RA
RA phase complete for FTSL-090, submitted Removal Action Report to ODEQ
Site Closure of FTSL-026
Site Closure of FTSL-027

2001 Site Closure of FTSL-028
Site Closure of FTSL-029
Site Closure of FTSL-030
Site Closure of FTSL-031
Site Closure of FTSL-032
Site Closure of FTSL-033
Site Closure of FTSL-021

2002 Removal action at FTSL-051 completed with final closure on June 6, 2002
ODEQ site closure of FTSL-090 dated April 24, 2002
ODEQ site closure of FTSL-040, FTSL-041 & FTSL-055 dated February 25, 2002
FTSL-060 site closure dated August 30, 2002
FTSL-010 site closure dated August 20, 2002
FTSL-011 site closure dated August 20, 2002
FTSL-012 site closure dated August 20, 2002
FTSL-013 site closure dated August 20, 2002
FTSL-014 site closure dated August 20, 2002
FTSL-015 site closure dated August 20, 2002
FTSL-016 site closure dated August 20, 2002
Conditional closure for FTSL-042 dated August 20, 2002
Conditional closure for FTSL-037 dated April 16, 2002
Submitted RI final report for site FTSL-008 April 9, 2002

2003 Submitted RI final report for site FTSL-009 January 3, 2003
FTSL-045 site closure dated April 10, 2003

2004 NFA for sites FTSL-022, 024, 047
FTSL-025 site closure dated August 23, 2004

2005 FTSL-008 site closure dated October 27, 2004
FTSL-009 site closure dated October 27, 2004
FTSL-023 site closure dated February 3, 2005

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates: None

Projected Date for Removal from NPL: NA

Schedule for Next Five-Year Review: 2007

Estimated Completion Date of IRP (including LTM phase): Indefinite

Fort Sill IRP Schedule

(Based on current funding constraints)

AEDB-R#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FTSL-009	LTM									*203609*
FTSL-010	LTM									*203609*
FTSL-011	LTM									*203609*
FTSL-012	LTM									*203609*
FTSL-013	LTM									*203609*
FTSL-014	LTM									*203609*
FTSL-047	LTM									*203609*

Prior Years Funds

Total Funding up to FY04: $22,078K

Year	Site Information	Expenditures	FY Total
FY05	FTSL-009	$52K	
	FTSL-023	$47K	
	FTSL-047	$36K	**$135K**

***Total Prior Year Funds*: $22,213K**

Current Year Requirements

Year	Site Information	Expenditures	FY Total
FY06	FTSL-010	$30K	
	FTSL-014	$30K	
	FTSL-047	$146.3K	**$206.3K**

Total Funding FY06: $206.3K

Total Future Requirements: **$2,685K**

Total IR Program Cost *(from inception to completion of the IRP):* **$25,104.3K**

FORT SILL

Military Munitions Response Program

MMRP Summary

Total AEDB-R MMRP Sites/AEDB-R sites with Response Complete: 1/0

AEDB-R Site Types:
1 Small Arms Range

Most Widespread Contaminants of Concern: UXO

Media of Concern: Soil

Completed REM/IRA/RA: None

Total MMRP Funding

Prior years (thru FY05):	$ 534K
Current Year (FY06):	$ 0
Future Requirements (FY07+):	$40,116K
Total:	$40,650K

Duration of MMRP
Year of MMRP Inception: 2003
Year of RC Completion: 2014
Year of MMRP Completion: 2047

MMRP Contamination Assessment

Fort Sill is located in Comanche County in southwestern Oklahoma. The southeastern border of the facility is adjacent to the City of Lawton, Oklahoma. Fort Sill occupies 93,828.73 acres. Fort Sill was settled as a cavalry post in 1869 to assist with Indian relations. The disappearance of the frontier in the early 1900's led to the transition from a cavalry outpost to an Installation with a focus on field artillery. In 1911, the School of Fire for Field Artillery was founded at Fort Sill. The Fort performed this type of function throughout its history. In 1915, the first air unit in the US military service, the First Aero Squadron, was stationed at Fort Sill. Additional field schools transferred to Fort Sill such as the US Army Infantry School (then known as the School of Musketry) in 1913, the School for Aerial Observers (with the establishment of Henry Post Airfield) in 1918, the Army Aviation School in 1945 through 1954, and the Artillery and Guided Missile Center and the Artillery and Guided Missile School in 1955. Camp Doniphan was established in 1917 as a National Army cantonment. The Fort was used in these capacities through present day as the home for the Field Artillery Center and School for the US Army and US Marine Corps for training and operational missions.

The Cantonment Area (FSILL-001-R-01) at Fort Sill was identified as an MMRP Site in April 2003 based on the US Army Range/Site CTT Inventory. In addition, there have been a number of subsites within the Cantonment Area that have been identified for MEC and MC investigation. The Cantonment Area (FSILL-001-R-01) at Fort Sill was identified as an MMRP Site in April 2003 based on the US Army Range/Site CTT Inventory. In addition, there are nine (9) sub-sites within the Cantonment Area that have been identified for MEC and MC investigation. The Rocket-Rifle-Grenade Range complex area in the southwest corner of the Cantonment Area comprised of the following smaller ranges: Field Artillery Replacement Training Center (FARTC) Rifle grenade range, Inert Rifle grenade range, McKenzie Hill Pistol and Rifle Ranges, and two FARTC Rocket Ranges. The Camp Doniphan sub-site (with the exception of the Post Ammunition Storage Area) is located on the western side of the Cantonment Area, the Rifle Range circa 1906 in the north-central portion of the Cantonment Area, the 8,000 Yard Artillery Range and the 14,500 Yard Artillery Range safety fans in the northern Cantonment Area. Additional information has been collected during the SI records collection visit, February 2004. A Historical Records Review was completed for Fort Sill that included information for the identified MMRP Site. Additional information was collected during the SI records collection visit, February 2004. A Historical Records Review was completed for Fort Sill that included information for the identified MMRP Site.

MMRP Cleanup Exit Strategy:

The RI/FS is scheduled for FY08. A removal and institutional controls are anticipated with 5 year reviews.

2004

- Final Historical Records Review for Other Than Operational Ranges at Cantonment Area, Fort Sill, Oklahoma, USACE, Omaha District, Aug-04.

2005

- Final Site Inspection Report Military Munitions Response Program Site Inspection Munitions Response Sites, Fort Sill, Oklahoma, USACE, Omaha District, August 2005.
- Site Specific Final Report MEC Range Reconnaissance Surveys Former Grenade & Rocket Ranges (Southwest Cantonment Area), Fort Sill, OK, USA Environmental, Inc, 23 December 2005

FORT SILL

Military Munitions Response Program Site Description

FSILL-001-R-01
CANTONMENT AREA

SITE DESCRIPTION

The Cantonment Area is located on the southern boundary of the Installation between the west and east range areas. The Cantonment Area is 8,132.4 acres in size and was part of the original Installation. Various places in the Cantonment Area have been used for weapons training or demolition since construction of the Installation in 1869 until around 1960. Musket training was conducted in the area where the museum and parade grounds are now located. Aerial photographs show piles of ammunition previously located by Key Gate and 75 mm munitions have been located near Rucker Park. UXO-DMM-MC has been discovered during building and utilities construction and other investigations throughout the Cantonment Area. Much of the existing Cantonment Area was historically part of an active range.

The SI was completed in August 2005.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: High

CONTAMINANTS OF CONCERN: UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	200210	200305
SI	200309	200509
RI/FS	200710	200909
RD	201210	201304
RA(C)	201305	201409
LTM	201710	204709

RC Date: 201409

CLEANUP STRATEGY

Remedial Investigation phase is planned in FY08. RA including soil removal and LTM is programmed.

MMRP Schedule

Initiation of MMRP: 2003

Past Phase Completion Milestones

2005
SI completed August 2005

Projected ROD/DD Approval Dates: 2009

Projected Construction Completion: 2014

***Completion Date of all RA(C) Activities*:** 2014

Schedule for Five Year Reviews: None

Estimated Completion Date of MMRP including LTM: 2047

Fort Sill MMRP Schedule

(Based on current funding constraints)

AEDB-R#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FSILL-001-R-01	RI/FS									
	RD									
	RA(C)									
	LTM									*204709*

Prior Years Funds

Total Funding up to FY04: $506K

Year	Site Information	Expenditures	FY Total
FY05	SI at FSILL-001-R-01	$28K	**$28K**

Total Prior Year Funds: $534K

Current Year Requirements

Year	Site Information	Requirements	FY Total
FY06		$0	**$0**

Total Future Requirements: **$40,116K**

Total MMR Program Cost *(from inception to completion of the MMRP):* **$40,650K**

Status of Community Involvement

In January of 1994, the Fort Sill Environmental Partnership Committee was formed. This committee is co-chaired by the Fort Sill Commanding General and the Mayor of Lawton and is comprised of members from Lawton and the eight county region around Fort Sill. This committee has been regularly updated on the status of Fort Sill's Installation Restoration Program and has provided their input on Fort Sill's Installation Restoration Program.

Determining Interest in Establishing RAB

1. Efforts Taken to Determine Interest

Fort Sill has made numerous RAB evaluations over the last 4 years with the last evaluation in July 2004 prior to the IAP Workshop. These evaluations show lack of sufficient and sustained interest by the community and government entities in forming a RAB.

As stated in the Army RAB/TAPP guidance the criteria for determining sufficient interest are:

a) There is a lack of outstanding cleanup issues or activities that do not warrant the establishment of a RAB. Last removal action was in April 2001 with no future remedial or removal action anticipated.
b) No local, state, tribal or federal government entity has ever requested that a RAB be formed.
c) Fort Sill has no properties that are being transferred to the public at this time or in the anticipated future.
d) No resident(s) from the local community and/or region has ever signed a petition requesting that a RAB be formed.
e) Fort Sill IRP is being conducted under the VCP of the ODEQ and EPA Region 6, Memorandum of Agreement (April 1999).
f) EPA is not involved with Fort Sill's IRP. Fort Sill does not have any NPL sites or does not have a RCRA permit.

It is Fort Sill's conclusion that Fort Sill does not meet any of the criteria set forth in the Army guidance and this shows that there is not sufficient and sustained interest by the community or the government entities in forming a RAB.

2. Results of Efforts to Determine Interest in a RAB

No interested parties have come forward to date requesting RAB membership.

3. Conclusions Concerning Establishing a RAB

Based upon the lack of community interest expressed to date no actions have been taken to establish a RAB.

4. Follow-up Procedures

The Public Affairs Office will continue to monitor public interest for all of Fort Sill's Environmental Programs.